

as the basis of new Claims 13-24 may be found in the application as originally filed and in Claim 1-12, Applicants submit that no new subject matter has been added.

The specification has been amended at pages 1, 16-18, 22 and 25 to present sequence identification numbers. The specification has been amended further by the insertion of new pages 34-44 (SEQUENCE LISTING) and the renumbering of pages subsequent to the SEQUENCE LISTING. Inasmuch as this information was in the application as originally filed, Applicants submit that no new subject matter is added by these amendments

Applicants have noted the Objection to Drawings and understand that correction is required. Applicants choose to defer correction until allowable subject matter has been added.

**I 1.821(d) Sequence Rules and Regulations**

In Item I of the Official Action, the Examiner required compliance with 37 C.F.R. 1.821-1.825. It is believed that the presentation of paper and computer-readable forms of a Sequence Listing and the following statements satisfy the requirements posed by the Examiner.

The following statements are made as required by 37 C.F.R. §1.821(f), 37 C.F.R. §1.825(a) and 37 C.F.R. §1.825(b).

I hereby state that the content of the paper and computer readable copies of the Sequence Listing, submitted in accordance with 37 C.F.R. §1.821(c) and (e), respectively, are the same.

I hereby state that the amendment made in accordance with 37 C.F.R. §1.825(a), included in the substitute computer readable form of the Sequence Listing is supported in the specification at pages 1, 16-18, 22 and 25 and the figures of the application as filed. I hereby state that the substitute computer readable form of the Sequence Listing does not include new matter.

I hereby state that the substitute copy of the computer readable form, submitted in accordance with 37 C.F.R. §1.825(b) is the same as the Sequence Listing.

**II. 35 U.S.C. § 102(a)**

In Item 2 of the Official Action, Claims 1, 2, 4-6 and 8-11 were rejected under 35 U.S.C. § 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Rose et al.

Applicants respectfully traverse the rejection.

Claims 1, 2, 4-6 and 8-11 have been canceled without prejudice. New Claims 13-24 have been added. New Claims 13-24 recite proteins encoded by a DNA molecule having a nucleotide sequence of SEQ ID NO:1, proteins having specific amino acid sequences and methods of making and using the proteins.

Rose et al. teaches a method of producing HPV capsid protein in a baculovirus expression system. Rose et al. does not teach or suggest the L1 protein of the instantly claimed invention.

With regard to the rejection under 35 U.S.C. § 102(a), Applicants respectfully submit that a rejection for anticipation requires that the invention be identically disclosed or described in the cited reference. Applicants respectfully submit that important and material limitations of the claimed invention are not disclosed in the cited reference. Applicants respectfully submit that the cancellation of Claim 1, 2, 4-6 and 8-11 and the presentation of new Claims 13-24 overcomes the grounds for rejection under 35 U.S.C. § 102(a). Therefore, Applicants respectfully request that these rejections be reconsidered and withdrawn.

With regard to the rejection under 35 U.S.C. § 103(a), Applicants respectfully submit that when applying 35 U.S.C. § 103, one must closely review the claimed invention and the level of ordinary skill in the pertinent art and then compare the claimed invention to the teachings of the prior art. When the prior art does not

provide one of ordinary skill in the art with motivation, teaching or suggestion to make the claimed invention, then claims should not be rejected under 35 U.S.C. § 103. The prior art is the art that existed at the time the application was filed; obviousness of a claim must be determined based on the prior art and not with the benefit gained from the teachings of the application.

Applicants respectfully submit that the cited reference fails to teach or suggest the instantly claimed invention. Prior to reading the present application, one skilled in the art would not be motivated to make the instantly claimed invention. Accordingly, Applicants contend that the cancellation of Claims 1, 2, 4-6 and 8-11 and the presentation of new Claims 13-24 overcomes the grounds for rejection of claims under 35 U.S.C. § 103(a). Therefore, Applicants respectfully request that these rejections be reconsidered and withdrawn.

### III. 35 U.S.C. § 103(a)

In Item 3 of the Official Action, Claims 1-4, 8-9 and 11-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lowy et al. and Rose et al.

Applicants respectfully traverse the rejection.

Claims 1-4, 8-9 and 11-12 have been canceled without prejudice. New Claims 13-24 have been added. New Claims 13-24 recite proteins encoded by a DNA molecule having a nucleotide sequence of SEQ ID NO:1, proteins having specific amino acid sequences and methods of making and using the proteins.

The teachings and suggestions of Rose et al. have been discussed *supra*.

Lowy et al. teaches a method of producing recombinant HPV type 16 capsid proteins. Lowy et al. does not teach or suggest the instantly claimed invention.

As noted above, Applicants respectfully submit that when applying 35 U.S.C. § 103, one must closely review the claimed invention and the level of ordinary skill in the pertinent art and then compare the claimed invention to the teachings of the prior art. When the prior art does not provide one of ordinary skill in the art with motivation, teaching or suggestion to make the claimed invention, then claims should not be rejected under 35 U.S.C. § 103. The prior art is the art that existed at the time the application was filed; obviousness of a claim must be determined based on the prior art and not with the benefit gained from the teachings of the application.

Applicants respectfully submit that the combination of the cited references fails to teach or suggest the instantly claimed invention. Prior to reading the present application, one skilled in the art would not be motivated to make the instantly claimed invention. Accordingly, Applicants contend that the cancellation of Claims 1-4, 8-9 and 11-12 and the presentation of new Claims 13-24 overcomes the grounds for rejection of claims under 35 U.S.C. § 103(a). Therefore, Applicants respectfully request that these rejections be reconsidered and withdrawn.

In Item 4 of the Official Action, Claims 5-7 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lowy et al. and Rose et al. as applied to Claims 1-4, 8-9 and 11-12 above, and further in view of Lowy et al. (1992) and Rose et al. (1994). The gist of the rejection is that the use of recombinant capsid proteins of HPV for vaccine development was known.

Applicants respectfully traverse the rejection.

Claims 5-7 and 10 have been canceled without prejudice. New Claims 13-24 have been added. New Claims 13-24 recite proteins encoded by a DNA molecule having a nucleotide sequence of SEQ ID NO:1, proteins having specific amino acid sequences and methods of making and using the proteins.

The teachings and suggestions of Rose et al. have been discussed *supra*.

Lowy et al. teaches a method of producing recombinant HPV type 16 capsid proteins. Lowy et al. does not teach or suggest the instantly claimed invention.

As noted above, Applicants respectfully submit that when applying 35 U.S.C. § 103, one must closely review the claimed invention and the level of ordinary skill in the pertinent art and then compare the claimed invention to the teachings of the prior art. When the prior art does not provide one of ordinary skill in the art with motivation, teaching or suggestion to make the claimed invention, then claims should not be rejected under 35 U.S.C. § 103. The prior art is the art that existed at the time the application was filed; obviousness of a claim must be determined based on the prior art and not with the benefit gained from the teachings of the application.

Applicants respectfully submit that the combination of the cited references fails to teach or suggest the instantly claimed invention. Prior to reading the present application, one skilled in the art would not be motivated to make the instantly claimed invention. Accordingly, Applicants contend that the cancellation of Claims 5-7 and 10 and the presentation of new Claims 13-24 overcomes the grounds for rejection of claims under 35 U.S.C. § 103(a). Therefore, Applicants respectfully request that these rejections be reconsidered and withdrawn.

#### **IV. 35 U.S.C. § 101**

In Item 5 of the Office Action, Claim 4 was rejected under 35 U. S. C. § 101 as being a substantial duplicate of Claim 2.

Applicants respectfully traverse this rejection.

Claims 4 and 2 have been canceled without prejudice, rendering the rejections under 35 U. S. C. § 101 moot.

In view of the foregoing amendments and remarks, it is believed that the grounds of rejections have been overcome and that the claims are in proper condition

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for allowance. Accordingly, Applicants respectfully request that all of the rejections be withdrawn and a Notice of Allowance be forwarded to the Applicants. The Examiner is invited to contact Applicants' Attorney at the telephone number given below, if such would expedite the allowance of this application.

Favorable action is earnestly solicited.

Respectfully submitted,

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Encls: Paper Sequence Listing  
Computer-readable sequence listing  
Notice to Comply with Requirements for Patent Applications Containing  
Nucleotide Sequence and/or Amino Acid Sequence Disclosures